SPINE

Smart Public transport Initiatives for climate-Neutral cities in Europe

www.spine-project.eu

39 Organisations

16 European Countries

11 Cities

17 milions Euro

WHAT IS SPINE?

- **Contribute** to the objectives of Climate-Neutral and Smart Cities Mission by accelerating the transition towards climate neutrality in cities.

- **Co-creation** methods involving a wide range of stakeholders to improve the overall PT offer and its attractiveness in line with users' needs.

MISSION

- Increase the share of public transport (modal split)
- Increase user satisfaction with public transport
- Reduce cars
- Reduce CO_2

VISION

Accelerate the progress towards climate neutrality and foster the transition towards more inclusive, accessible, resilient and sustainable Public Transportation services by reinforcing PT systems through their smart integration with new mobility services, connected and automated mobility, sharing schemes, active transport modes and micromobility.

SOLUTIONS

- Integrated
- Accessible
- Resilient
- Smart
- Inclusive

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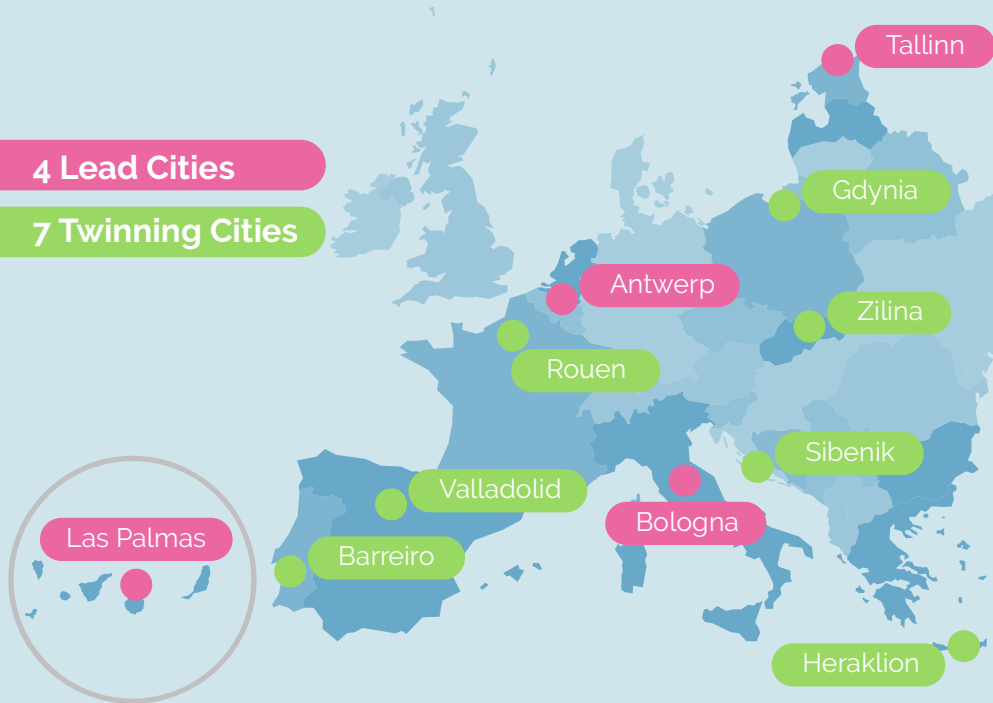- X @project_spine
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CITIES

Drivers of this transition will be the SPINE Living Labs in 11 cities engaged in the implementation of their sustainable urban mobility plans and the co-creation, development, uptake and the broad adoption of promising innovative mobility solutions.

4 Lead Cities

7 Twinning Cities

Map with cities: Tallinn, Gdynia, Antwerp, Zilina, Rouen, Sibenik, Valladolid, Bologna, Barreiro, Las Palmas, Heraklion

BOLOGNA

The city of Bologna aims to reduce traffic emissions by 40% by 2030 compared to 1990, increase the PT share to 19%, bicycle usage to 14%, and reduce car usage to 41% in the same period. PT in the city is part of the overall metropolitan PT service and is characterized by a high level of digitalisation: (i) the bus fleet is GPS controlled, providing data about the performance of the service, and the possibility to provide real-time information to passengers; (ii) the bus tickets can be purchased through a mobile app on-board with debit/credit card.

The SPINE project in Bologna aims to build new mobility hubs in 30 railway stations and terminals by 2030. These hubs will offer various transportation services and innovative facilities to improve passengers' experience. The project also includes the deployment of charging stations for electric vehicles, implementing a congestion charging scheme for non-electric vehicles, and integrating public transportation with other micro-mobility services. The goal is to create a well-informed and participatory planning process, with potential expansion to regional levels.

TALLIN

Tallinn, the capital of Estonia, faces transportation challenges such as increasing car usage, fragmented public transportation, and a decline in PT ridership. The city aims to become people-centered, reduce emissions by 33% by 2030, and has implemented initiatives to mitigate climate change. Tallinn was named the European Green Capital for 2023.
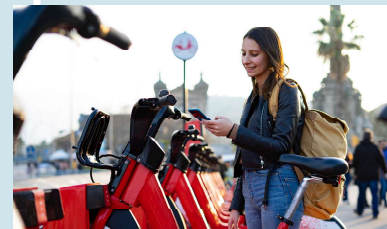
SPINE will enhance Tallinn's multimodal hubs, integrating PT with other services and improving the user experience. The Smart Tallinn Platform will support sustainable mobility strategies. MaaS services will be launched and improving parking management. Expected outcomes include increased PT ridership, improved satisfaction, fewer cars in the city center, and reduced CO2 emissions.

LAS PALMAS

Las Palmas aims to promote sustainable transportation by creating pedestrian streets, multipurpose public spaces, and improving the urban bus network. The city has successful bike-sharing and e-moto sharing systems. Las Palmas is also working on implementing a scooter sharing system and constructing a Bus Rapid Transit (BRT) system.

SPINE will implement collaborative mobility schemes within existing multimodal hubs, focusing on bus network nodes with bike and scooter access. The hubs will be located in "7 Palmas," "La Ballena," and "Auditorio," improving real-time information and facilitating interchanges. These improvements contribute to the development of a Low Emission Zone (LEZ) in line with national guidelines. The Municipality has identified one possible LEZ area and will explore other locations with PT improvements and pedestrian zones. The LEZ plan will include traffic mitigation, parking management, and urban planning measures.

ANTWERP

Antwerp is the biggest city in the Flanders region, with many industrial and logistics activities due to the presence of the port.

The LL focuses on increasing the uptake of PT at different types of multimodal hubs, stimulating collaborative mobility. SPINE will upgrade the P&R multimodal hubs through adaptations to their physical design to increase safety, visibility, accessibility and use by different user groups. In addition, it will advance existing digital tools and will promote the use of the large multimodal 'interregional' hubs located at the train stations and the smaller 'local' and 'neighbourhood' hubs by designing and introducing new services. Antwerp will build on its 'Smart Ways to Antwerp' intermodal journey planner that integrates real-time information about different mobility services, to assess the potential of SPINE innovations.

GDYNIA

Gdynia is a port city facing challenges of increasing car usage and limited integration in public transportation. The city aims to develop a sustainable mobility system with low emission transport and modern technologies in PT.

The LL in Gdynia focuses on integrating PT with other mobility services. This includes developing a multimodal hub in Gdynia Central, integrating PT with Bike & Ride and Park & Ride options. Priority systems and bus lanes will be implemented to increase PT speed and efficiency. A parking demand management scheme will be introduced in the city center. Additionally, an on-demand free-of-charge mobility service will be developed to support transportation for refugees, including transportation between camps and schools.

ŠIBENIK

Šibenik is a city in Northern Dalmatia with mainland settlements and inhabited islands. Public maritime transport is important for passenger traffic. Challenges include residents' limited use of PT, lack of a passenger information system, outdated ticket payment system, and inadequate bus stops.

SPINE will enhance the intermodal point at the port of Šibenik to create a smart multimodal hub. This hub will integrate bus, rail, bike-sharing, and parking services within a 500m radius. Physical and digital infrastructure improvements will be made to synchronize existing mobility services, provide real-time information, and integrate tickets. Charging stations for EVs will be installed at the parking spaces. A MaaS scheme will offer bundled mobility packages, including PT and bike sharing, with a focus on attracting tourists. Bus stops will be improved with digital signage for better user experience. Knowledge and results will be shared with the CIVINET network to facilitate learning and implementation in other towns.

HERAKLION

Heraklion, a growing city in Crete, Greece, is focused on promoting sustainable mobility. Efforts include expanding green routes, bicycle lanes, upgrading street junctions, creating car-free areas, and implementing controlled parking and bike-sharing stations. The city also aims to develop smart freight management systems for its busy market.

Within SPINE, ASTIKO KTEL aims to develop smart city freight management systems (cargo hitching). In addition, the Municipality of Heraklion aims for the implementation of on-demand Public Transportation for disabled citizens and family access services with designated bus stops at day-care centers and schools.

VALLADOLID

Valladolid has shifted to a sustainable mobility model, prioritizing non-motorized trips and increasing public transportation usage. They promote cycling, improve pedestrian infrastructure, and aim to reduce emissions and accidents. Real-time information and integrated ticketing are available for public transport.

Valladolid aims to integrate public transportation with other mobility services, prioritize PT through traffic light systems and bus lanes, and improve real-time passenger information. They also plan to implement parking management and offer on-demand mobility services.

Valladolid also focuses on increased customer experience to ensure better user experience providing value-added transport services as a critical aspect of being an effective climate action city.

BARREIRO

Barreiro municipality in Portugal owns its urban bus operator (TCB) and aims to improve transportation connections, enhance PT convenience, promote active modes, and reduce parking pressure. SPINE supports regional cooperation and innovation to increase bus ridership.

Barreiro implemented a new tariff system and aims to improve their mobile app for bus services, providing real-time information and easy payment options. These innovations aim to increase PT demand and improve accessibility. Tests will also be conducted to evaluate the impact of parking management measures on PT connections.

ZILINA

Žilina, Slovakia, is an industrial city with a population of around 85,000. It is actively pursuing sustainable initiatives, including low-emission zones and climate change adaptation plans. The city has a modern public transportation system with electronic tickets, real-time monitoring, and communication systems. Additionally, Žilina has a network of bike lanes, a bike-sharing program, and bicycle parking facilities.

Žilina, Slovakia, is implementing a multimodal hub and collaborative mobility to promote sustainable and low-carbon transportation. The hub will enhance the passenger experience and provide electric vehicle charging. A LEZ will be established, and a City Innovation Platform will be developed. Synergies with the Žilina City Dashboard will be explored to improve communication with drivers and citizens.

ROUEN

Rouen Normandie Metropolis is implementing a MaaS project to integrate mobility service and provide with a unified "mobility assistant" for its residents. Cityway has been awarded the contract to develop the MaaS tools.

The LL will enhance MaaS by creating standard APIs the integration of LEZ & detailed On-Site Parking information into the multi/intermodal journey planner. The modal scope of MaaS is expanded with several mobility services like different transport on-demand services, a carpooling service, bikesharing and parking.